

# 12<sup>th</sup> International Conference on ARTHROPLASTY

June 24-25, 2019 | Rome, Italy

## **Does unicompartmental knee arthroplasty have worse outcomes in spontaneous osteonecrosis of the knee than in medial compartment osteoarthritis? A systematic review and meta-analysis**

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**Introduction:** The role of Unicompartmental knee arthroplasty (UKA) in spontaneous osteonecrosis of the knee (SONK) remains controversial, even though SONK involves only one compartment of the knee joint. We aimed to compare the survival rate and clinical outcomes of UKA in SONK and medial compartment osteoarthritis (MOA) via a meta-analysis of previous studies.

**Materials and Methods:** MEDLINE, Embase, and Cochrane Library were searched up to January 2018 with keywords related to SONK and knee arthroplasty. Studies were selected with predetermined inclusion criteria: (1) medial UKA as the primary procedure, (2) reporting implant survival or clinical outcomes of osteonecrosis and osteoarthritis, and (3) follow-up period > 1 year. Quality assessment was performed using the risk of bias assessment tool for non-randomized studies. A random-effects model was used to estimate the pooled relative risk (RR) and standardized mean difference.

**Results:** The incidence of UKA revision for any reason was significantly higher in SONK than in MOA group (pooled RR=1.83, p=0.009). However, the risk of revision due to aseptic loosening was not significantly different between the groups (Figure 1). Moreover, when stratified by the study quality, high quality studies showed similar risk of overall revision in SONK and MOA (p=0.71). Subgroup analysis revealed no significant difference in failure between SONK and MOA after cemented mobile and fixed bearing UKA. Results of uncemented UKA was reported only in one study, which showed higher failure of SONK compared to MOA. Clinical outcomes after UKA were similar between SONK and MOA (p=0.66).

**Conclusions:** Cemented UKA has similar survival and clinical outcomes in SONK and MOA. Prospective studies designed specifically to compare the UKA outcomes in SONK and MOA are necessary.